

AMENDMENTS TO THE CLAIMS:**CLAIMS.**

We claim:

1. (Currently Amended) A hot melt adhesive composition consisting essentially of:

A) from about 40 to 100 percent by weight (based on the final weight of the hot melt adhesive composition) of a ~~homogenous~~ homogeneous ethylene/ α -olefin interpolmer[[: and]]

wherein:

1) the homogeneous ethylene/ α -olefin interpolmer is present in an amount of from about 60 to about 85 percent by weight (based on the final weight of the hot melt adhesive composition) and the homogeneous ethylene/ α -olefin interpolmer is characterized by having::

i) a density of from about 0.880 to about 0.930 g/cm³;

ii) a number average molecular weight (Mn) of from about 1,000 to about 2,000; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 500 to about 7,000 cP and

2) the hot melt adhesive composition is characterized by having:

i) a Brookfield Viscosity (measured at 350°F) of from about 400 to about 2,000 cP;

ii) a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 110°F; and

iii) a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 140°F; and

B) from about 0 to about 60 percent by weight (based on the final weight of the hot melt adhesive composition) of one or more tackifiers.

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2. (Cancelled).

3. (Currently Amended) The hot melt adhesive composition of Claim 1 wherein;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer is present in an amount of from about 65 to about 80 percent by weight (based on the final weight of the hot melt adhesive composition) and the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer is characterized by having:

i) a density of from about 0.890 to about 0.920 g/cm³;

ii) a number average molecular weight (Mn) of from about 1,250 to about 7,000; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 1,000 to about 6,000 cP; and

B) the one or more tackifiers is present in an amount of from about 20 to about 35 percent by weight (based on the final weight of the hot melt adhesive composition); and where

C) the hot melt adhesive composition is characterized by:

i) having a Brookfield Viscosity (measured at 350°F) of from about 500 to about 1,400 cP;

ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 115°F;

iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 150°F; and

iv) exhibiting 100% paper tear at 35°F.- 140°F.

4. (Currently Amended) The hot melt adhesive composition of Claim 1 wherein;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer is characterized by having:

i) a density of from about 0.895 to about 0.915 g/cm³;

ii) a number average molecular weight (Mn) of from about 1,500 to about

6,000; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 1,500 to about 5,000 cP; and

B) the hot melt adhesive composition is characterized by:

i) having a Brookfield Viscosity (measured at 350°F) of from about 750 to about 1,200 cP;

ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 120°F;

iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 170°F; and

iv) exhibits 100% paper tear at 0°F.-140°F.

5. (Currently Amended) The hot melt adhesive composition of Claim 1 wherein;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymer is characterized by having:

i) a density of from about 0.893 to about 0.930 g/cm³;

ii) a number average molecular weight (Mn) of from about 1000 to about

6,000; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 1,500 to about 5,000 cP; and

B) the hot melt adhesive composition is characterized by:

i) having a Brookfield Viscosity (measured at 350°F) of from about 400 to about 1,400 cP;

ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 90°F;

iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 200°F.; and

iv) exhibits 100% paper tear at 140°F.

6. (Currently Amended) The hot melt adhesive composition of Claim 5 wherein;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer is characterized by having:

i) a density of from about 0.894 to about 0.910 g/cm³;
ii) a number average molecular weight (Mn) of from about 1100 to about 5,300; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 1,600 to about 3,200 cP; and

B) the hot melt adhesive composition is characterized by:

i) having a Brookfield Viscosity (measured at 350°F) of from about 700 to about 1,200 cP;

ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 90°F;

iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 200°F.; and

iv) exhibits 100% paper tear at 140°F.

7. (Currently Amended) The hot melt adhesive composition of Claim 4 wherein;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer is an interpolpolymer of ethylene and one or more C₃-C₃₀ α -olefins; and

B) the one or more tackifiers is selected from the group consisting of aliphatic hydrocarbon resins, hydrogenated hydrocarbon resins, C₇ aliphatic or aromatic hydrocarbon resins or an aromatically modified C₇ aliphatic or aromatic hydrocarbon resins and combinations thereof; and wherein the adhesive composition is capable of binding a fibrous cellulosic article to an article selected from the group consisting of a fibrous cellulosic article, wood, metal, glass, plastic, and combinations thereof.

8. (Currently Amended) The hot melt adhesive composition of Claim 4 wherein;

A) in the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolpolymer, the α -

olefin[[s]] is selected from the group consisting of ~~from~~-C₈ (1-Octene); C₁₀ (1-Decene), C₁₂ (1-dodecene), C₁₄ (1-duodecene), C₁₄ (1-tetradecene), C₁₆ (1-hexadecene), C₁₈ (1-octadecene), C₂₀₋₂₄⁺, C₂₄₋₂₈ and C₃₀ and combinations thereof; and

B) the one or more tackifiers is characterized as having an acid number between 0 to and about 25.8.

9. (Currently Amended) The hot melt adhesive composition of Claim 5 wherein;

A) in the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers, the α -olefin[[s]] is selected from the group consisting of ~~from~~-C₈ (1-Octene); C₁₀ (1-Decene), C₁₂ (1-dodecene), C₁₄ (1-duodecene), C₁₄ (1-tetradecene), C₁₆ (1-hexadecene), C₁₈ (1-octadecene), C₂₀₋₂₄⁺, C₂₄₋₂₈ and C₃₀ and combinations thereof; and

B) the one or more tackifiers is characterized as having an acid number between 0 [[to]] and about 25.8.

10. (Currently Amended) The hot melt adhesive composition of Claim [[12]]9, further comprising one or more compounds chosen from the group consisting of stabilizers, plasticizers, fillers, antioxidants, preservatives, synergists, dyes, and pigments.

10. (Original) The hot melt adhesive composition of Claim 12, further comprising one or more compounds chosen from the group consisting of stabilizers, plasticizers, fillers, antioxidants, preservatives, synergists, dyes, and pigments.

11. (Original) The hot melt adhesive composition of Claim 8, wherein the α -olefin is selected from the group consisting of 1-octene and propylene.

12. (Original) The hot melt adhesive composition of Claim 9, wherein the α -olefin is 1-octene.

13. (Original) The hot melt adhesive composition of Claim 8, wherein the copolymer has a molecular weight distribution (Mw /Mn) ranging from about 2.1- about 2.7.

14. (Original) The hot melt adhesive composition of Claim 9, wherein the copolymer has a molecular weight distribution (Mw /Mn) ranging from about 2.1- about 16.

15.. (Original) The hot melt adhesive composition of Claim 8, wherein the tackifier is present in an amount of from about 15 to about 35 percent by weight (based on the final weight of the hot melt adhesive composition).

16. (Currently Amended) A cellulosic article formed using a hot melt adhesive composition, the adhesive composition consisting essentially of;

A) from about 40 to 100 percent by weight (based on the final weight of the hot melt adhesive composition) of a homogenous homogeneous / α -olefin interpolymers[; and]]

wherein in the hot melt adhesive composition:

1) the homogeneous ethylene/alpha-olefin interpolymers is present in an amount of from about 60 to about 85 percent by weight (based on the final weight of the hot melt adhesive composition) and the homogeneous ethylene/alpha-olefin interpolymers is characterized by having:

i) a density of from about 0.880 to about 0.930 g/cm³;

ii) a number average molecular weight (Mn) of from about 1,000 to about 9,000; and

iii) a Brookfield Viscosity (measured at 300°F) of from about 500 to about 7,000 cP and wherein

2) the hot melt adhesive composition is characterized by having:

i) a Brookfield Viscosity (measured at 350°F) of from about 400 to about 2,000 cp

ii) a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 110°F; and

iii) a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 140°F, and

B) from about 0 to about 60 percent by weight (based on the final weight of the hot melt adhesive composition) of one or more tackifiers.

18. (Currently Amended) The cellulosic article of Claim 16 wherein in the hot melt adhesive composition;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers is present in an amount of from about 65 to about 80 percent by weight (based on the final weight of the hot melt adhesive composition) and the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers is characterized by having:

- i) a density of from about 0.890 to about 0.920 g/cm³;
- ii) a number average molecular weight (Mn) of from about 1,250 to about 7,000;
- and
- iii) a Brookfield viscosity (measured at 300°F) of from about 1,000 to about 6,000 cP; and

B) the one or more tackifiers is present in an amount of from about 20 to about 35 percent by weight (based on the final weight of the hot melt adhesive composition); and wherein

C) the hot melt adhesive composition is characterized by:

- i) having a Brookfield Viscosity (measured at 350°F) of from about 500 to about 1,400 cP;
- ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 115°F;
- iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 150°F; and
- iv) exhibiting 100% paper tear at 140°F.

19. (Currently Amended) The cellulosic article of Claim 16 wherein in the hot melt adhesive

composition;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers is characterized by having:

- i) a density of from about 0.893 to about 0.930 g/cm³;
- ii) a number average molecular weight (Mn) of from about 1,000 to about 6,000; and
- iii) a Brookfield Viscosity (measured at 300°F) of from about 1,500 to about 5,000 cP; and

B) the hot melt adhesive composition is characterized by:

- i) having a Brookfield Viscosity (measured at 350°F) of from about 400 to about 1,400 cP;
- ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 90°F;
- iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 200°F; and
- iv) exhibits 100% paper tear at 120°F.

20. (Currently Amended) The cellulosic article of Claim 16 wherein in the hot melt adhesive composition;

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers is characterized by having:

- i) a density of from about 0.894 to about 0.910 g/cm³;
- ii) a number average molecular weight (Mn) of from about 1100 to about 5,300; and
- iii) a Brookfield Viscosity (measured at 300°F) of from about 1,600 to about 3,200 cP; and

B) the hot melt adhesive composition is characterized by:

- i) having a Brookfield Viscosity (measured at 350°F) of from about 700 to

about 1,200 cP;

ii) having a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 90°F;

iii) having a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 200°F.; and

iv) exhibits 100% paper tear at 120°F.

21. (Currently Amended) The cellulosic article of Claim ~~[[17]]16~~, wherein in the hot melt adhesive composition:

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolmer is an interpolmer of ethylene and one or more C₃-C₃₀ α -olefins; and

B) the one or more tackifiers is selected from the group consisting of aliphatic hydrocarbon resins, hydrogenated hydrocarbon resins, C₃ aliphatic or aromatic hydrocarbon resins or an aromatically modified C₃ aliphatic or aromatic hydrocarbon resins and combinations thereof.

22. (Currently Amended) The cellulosic article of Claim 19, wherein in the hot melt adhesive composition:

A) the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolmer is an interpolmer of ethylene and one or more C₃-C₃₀ α -olefins; and

B) the one or more tackifiers is selected from the group consisting of aliphatic hydrocarbon resins, hydrogenated hydrocarbon resins, C₃ aliphatic or aromatic hydrocarbon resins or an aromatically modified C₃ aliphatic or aromatic hydrocarbon resins and combinations thereof.

23. (Currently Amended) The cellulosic article of Claim ~~[[17]]16~~ wherein in the hot melt adhesive composition;

A) in the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolmer, the α -olefin is selected from the group consisting of ~~from~~-C₈ (1-Octene); C₁₀ (1-Decene), C₁₂ (1-dodecene),

C₁₄ (1-duodecene), C₁₄ (1-tetradecene), C₁₆ (1-hexadecene), C₁₈ (1-octadecene), C₂₀₋₂₄⁺, C₂₄₋₂₈ and C₃₀ and combinations thereof; and

B) the one or more tackifiers is characterized as having an acid number between 0 to and about 25.8.

24. (Currently Amended) The cellulosic article of Claim 19 wherein in the hot melt adhesive composition;

A) in the ~~homogenous~~ homogeneous ethylene/ α -olefin interpolymers, the α -olefin is selected from the group consisting of ~~from~~ C₈ (1-Octene), C₁₀ (1-Decene), C₁₂ (1-dodecene), C₁₄ (1-duodecene), C₁₄ (1-tetradecene), C₁₆ (1-hexadecene), C₁₈ (1-octadecene), C₂₀₋₂₄⁺, C₂₄₋₂₈ and C₃₀ and combinations thereof; and

B) the one or more tackifiers is characterized as having an acid number between 0 to and about 25.8.

25. (Original) The cellulosic article of Claim 16 wherein the hot melt adhesive composition further comprises one or more compounds chosen from the group consisting of stabilizers, plasticizers, fillers, antioxidants, preservatives, synergists, dyes, and pigments.

26. (Currently Amended) The cellulosic article of Claim ~~[[17]]~~16, wherein the cellulosic article is selected from the group consisting of corrugated cardboard, kraft paper, linerboard, and paper.

27. (Original) The cellulosic article of Claim 19, wherein the cellulosic article is selected from the group consisting of corrugated cardboard, kraft paper, linerboard, and paper.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled).

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31 (New) A method of producing a polymer composition comprising admixing:

A) an amount of from about 60 to about 85 percent by weight (based on the final weight of the polymer composition) of a homogeneous ethylene/ α -olefin interpolpolymer, wherein the homogeneous ethylene/ α -olefin interpolpolymer is characterized by having:

- i) a density of from about 0.880 to about 0.930 g/cm³;
- ii) a number average molecular weight (Mn) of from about 1,000 to about 9,000;
- and
- iii) a Brookfield viscosity (measured at 300°F) of from about 500 to about 7,000 cP;

B) an amount of from about 0 to about 60 percent by weight (based on the final weight of the polymer composition) of a tackifier, and wherein

C) the polymer composition is characterized by having:

- i) a Brookfield viscosity (measured at 350°F) of from about 400 to about 2,000 cP;
- ii) a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 110°F; and
- iii) a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 140°F.

32. (New) The method as described in Claim 31, wherein:

A) the homogeneous ethylene/ α -olefin interpolpolymer is characterized by having:

- i) a density of from about 0.893 to about 0.930 g/cm³;
- ii) a number average molecular weight (Mn) of from about 1,000 to about 6,000;
- and
- iii) a Brookfield viscosity (measured at 300°F) of from about 1,500 to about 5,000 cP; and

B) wherein the polymer composition is characterized by having:

- i) a Brookfield viscosity (measured at 350°F) of from about 400 to about 1,400 cP;
- ii) a Peel Adhesion Failure Temperature ("PAFT") of greater than or equal to 90°F;
- iii) a Shear Adhesion Failure Temperature ("SAFT") of greater than or equal to 200°F; and
- iv) exhibits 100% paper tear at 140°F.

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